(D) REMARKS, including DRAWING AMENDMENTS, if any

The amendments to the claims hereinabove are trivial in that no new elements have been incorporated from the specification. As such, no new search is required to complete prosecution of this application. More particularly, Claim 4 has been amended to correct and conform the claim technologically to the Detailed Disclosure and the other claims regarding the same element; see e.g., claim 9. The reasoning for the amendment to Claim 1 is detailed below. Neither amendment is related to the references alleged to be material to the claims for the following reasons.

The issue is whether claims 1, 4, 5 and 9 of the Alter invention are obvious under Sec. 103 in view of alleged "admitted prior art (APA)," U.S. Pat. No. 6,734,093 (Sabin) and U.S. Pat. No. 6,255,737 (Hashimoto).

The rejections in the present Final Action are substantially verbatim to the prior Office Action, mailed 07/22/2004. Applicant filed extensive Remarks on Sept. 9, 2004, incorporated herein by reference in their entirety. Using the words of the reference documents themselves, it is unmistakably clear from those Remarks that Sabin does not stand for the proposition asserted by the Office. Namely, Sabin et al. nowhere ". . .include a capacitor structure having the bonding pad metal layer/first plate and a metal layer/second plate separated by a dielectric layer (see 50, 20 and 30 respectively in FIG. 2: Col. 2, lines 15-65)." Final Action, Page 3, about line 10-12). In the first Office Action this alleged disclosure is referred to as showing a "conventional capacitor structure." Page 4, line 7. In the Final Office Action, this alleged disclosure is referred to as just "a capacitor." Page 3, line10.

Not only is it clear that the structure of Sabin is not a conventional capacitor, it is clear that Sabin never thinks of nor refers to his invention of a Method for Placing Active Circuits Beneath Active Bonding Pads (Title) as using nor disclosing any such capacitor element. Both Actions arguments are extrapolations or interpretations of the reference and ignore that *in Sabin's own words*, the shown structure and Detailed Description of Sabin teaches that the depicted IC's

active devices are "active circuits 10" (Col. 2, ll. 40-41). There is nothing in Sabin's words that active circuits include the Office's combination of elements 50, 20, 30, selectively chosen to make the argument of these Actions. In other words, from the aforesaid quotes from the Action, in Sabin's own words element 50 is the "bonding pad" itself, element 30 is a "dielectric layer...[that]...electrically isolates the metal array 20 from the pad." Nowhere in Sabin does Sabin himself say that this is a capacitor nor is intended as part of "active circuits 10."

This alleged "capacitor" is a fabrication of the Office Action based on applicant's disclosure in order to build a case for rejection where the reference itself in its own words does not stand for the proposition asserted. The rejections should be withdrawn on this ground.

Furthermore, the Action finds a capacitor where the Sabin structure drawings may look like a capacitor when Sabin himself asserts that structure has as its true purposes a physical barrier,

> "...so that the bonding pad may be subjected to *thermal and mechanical stresses without damaging the underlying active circuits*." Abstract (emphasis added);

and

> "Therefore, what is needed is a method for fabricating a bonding pad structure which allows the placement of active circuits beneath a bonding pad, without damaging or otherwise affecting the performance of the active circuits, ..." Col. 1, ll. 45-48;

and

> "...the *underlying structure* over which a bonding pad may be formed. ***...*helps absorb compressive stress and insulates from thermal stress during the bonding process*." Col. 2, ll. 37, 53-55 (emphasis added).

The Action's alleged capacitor only exists as a fabrication intended to defeat the present application based on the application's disclosure. This is prima facie hindsight reasoning. The law is clear. Hindsight reasoning using the invention for which a patent is sought as a template is impermissible. Texas Instruments, Inc. v. ITC, 26 USPQ2d 1018 (CA FC 1993). It is respectfully requested that the rejections must be withdrawn for this reason.

The primary reference Sabin, failing to stand for a proposition asserted can not be then combined with other references. It fails to provide the fundamental teaching, suggestion, incentive, inference or motive for combination. Again, the rejections must be withdrawn on this ground also.

Moreover, the alleged capacitor constructed for bolstering the argument of the Office from Sabin uses the bonding pad 50 itself as a "first plate." Page 3, line. 11. Alter's independent claims for the species under examination are for:

1. An integrated circuit structure comprising:
a circuit die;
at least *one input-output pad* for connecting to said circuit die;
wafer-level packaging including an electrically conductive material *beam* and at least one active circuit element *wherein the active circuit element integrates therein at least a segment of said beam.*

9. A *wafer-level packaged* integrated circuit device comprising:
a circuit die having at least one input-output pad and a top metal layer;
a *wafer-level package including* a dielectric material layer superjacent said die and a conductive material *beam* encapsulated in said dielectric material layer and leading to a connector bump on an external surface of said dielectric material layer; and
an ESD protection capacitor integrated into said top metal layer, *using a predetermined segment of said beam* as a first plate and having a grounded second plate embedded in said dielectric material layer proximate said segment.

Emphases added.

Applicant Alter does not use a bonding pad itself as does the Action's alleged capacitor structure. In fact, it is unmistakable that by claims 1 and 9 including the "input-output pad" as a

separate element, that Alter is a teaching directly contrary to the Action's alleged Sabin capacitor. Proceeding contrary to the wisdom of the prior art is "strong evidence" of non-obviousness. W.L. Gore & Assoc., Inc. V. Garlock, 220 USPQ 303 (CA FC 1983). Therefore, again, it is respectfully requested that the rejections be withdrawn.

Moreover, as previously pointed out in the present applicant's prior Reply, the secondary reference *in its own words* evidences that Hashimoto's problem and purpose is clearly defined in his own words,

> "...apart from the stress absorbing layer, thermal stress can be effectively absorbed." Col. 1, ll. 34-35."

Hashimoto goes on throughout the patent in his own words describing methods and structures to the thermal stress problem. Again, this has nothing to do with the invention described and claimed by Alter. Again, the rejections should be withdrawn on this ground.

Furthermore, the Final Action makes the argument,

> "...to incorporate at least one active circuit element such as a capacitor/ESD capacitor being integrated in the WSP with at least a segment of the conductive beam, the capacitor/ESD capacitor having a first plate formed by a predefined region of said beam and a grounded second plate embedded in a top level metallization layer of the die proximate the predetermined region as taught by Sabin et al. and Hashimoto so that the desired ESD protection and noise reduction can be achieved and the reliability/.performance of the IC structure can be improved in the APA." Final Action, Page 3, last para. - Page 4.

This is neither what the combination shows nor what Alter claims nor, in fact, a useful construct at all. First, as shown from Sabin's own words, there is no capacitor. Second, the Examiner himself above uses the bonding pad 50 as the top plate of the alleged capacitor, supra. Now in conclusion, it inexplicably has become a "predefined region of said beam." Third, there is no

WLP beam, except in Alter's disclosure. Fourth, how can a "grounded second plate" be embedded in a top level metallization layer of the die" without grounding out and making useless the entire die? The combination of APA, Sabin et al. and Hashimoto failing to stand for the propositions asserted, it is again respectfully requested that the rejections be withdrawn.

Lastly, with regard to the amendment to claim 1 made herein, in Response to Argument, the Action alleges "Furthermore, the limitations as recited in claims 1 and 9, include "conductive material beam" and not "bump-out beams".

Claim 1 reads in fact:

"...*wafer-level packaging including* an electrically conductive material *beam* ..."

and Claim 9 reads in fact:

"...a *wafer-level package including* a dielectric material layer superjacent said die and a conductive material *beam* ...".

It is axiomatic that claims are not to be interpreted in a vacuum. Slimfold Mfg. Col v. Kinkead Indus.,810 f.2d 1113, 1 USPQ 2d 1563 (Fed. Cir. 1987); Moleculon Res. Corp. v. CBS, Inc., 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986). The claim and specification language must be considered. DMI, Inc. v. Deere & Co., 755 F.2d 1570, 225 USPQ 236 (Fed. Cir. 1985). By ignoring the present application's use of the claims limitations as discussed in the Detailed Description, the argument as set forth in the Action ignores this requirement. Understanding, or Interpreting, a limitation *already in a claim* in light of the Detailed Description is not the same as an impermissible reading of a limitation into a claim. Otherwise, these court decisions are rendered meaningless.

Thus, when these clauses of these claims are read in entirety, rather than selectively and disjointedly, it is clear that the "beam" is the specifically included WLP beam which is also known in the art colloquially as a "bump-out beam." Those skilled in the art would recognize the identity by reading the phrase as a whole. Nevertheless, in order to advance prosecution, applicant adds the colloquial terms to claim 1, supra.

SUMMARY AND CONCLUSIONS

Alter teaches novel, non-obvious uses and improvements for wafer-level packaging and active IC components integrated directly into elements of the wafer-level packaging. The references cited are irrelevant and immaterial to all Alter's claims and the rejection argument based on an interpretation and fabrication of claim elements where none exist in the words of the references themselves.

Based upon the foregoing, it is submitted that the application now presents claims which are directed to novel, unobvious and distinct features of the present invention which are an advancement to the state of the art. Reconsideration and early allowance of all claims is respectfully requested. The right is expressly reserved to reassert any and all arguments, including the raising of new arguments, should a Notice of Allowance not be forthcoming.

Questions or suggestions that will advance the case to allowance may be directed to the undersigned by teleconference at the Examiner's convenience.

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Respectfully submitted,
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